

## AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application:

1. (Currently Amended) An optical module comprises an inlet side optical fiber, an optical filter optically connected to said inlet side optical fiber, and an outlet side optical fiber optically connected to said optical filter,

wherein, said optical filter comprises a gain-slope compensation optical filter for ~~to-flattening~~ a gain slope ( $dG/d\lambda$ , where G:gain,  $\lambda$ :wavelength), ~~of a gain generated by the~~ variation of input signals, of an optical amplifier connected to said inlet side optical fiber or said outlet side optical fiber.

2. (Original) The optical module as claimed in claim 1, wherein said gain-slope compensation optical filter comprises a dielectric multi-layer film filter.

3. (Original) The optical module as claimed in claim 1, wherein said gain-slope compensation optical filter comprises a long-period fiber grating.

4. (Currently Amended) The optical module as claimed in claim 1, wherein said gain-slope compensation optical ~~filter~~filter is designed by using a gain-slope evaluation method according to a probe method.

5. (Currently Amended) An optical amplifying module ~~comprises~~comprising: ~~an optical amplifier with~~

the optical module according to claim 1; and

an optical amplifier being optically connected to the optical module.

6. (Original) The optical amplifying module as claimed in claim 5, wherein said optical amplifier comprises a rare earth doped optical fiber amplifier.

7. (Previously Presented) The optical amplifying module as claimed in claim 5, wherein an inlet side optical amplifier, an outlet side optical amplifier and one said

optical module are included, and said optical module is arranged between said inlet side optical amplifier and said outlet side optical amplifier.

8. (Currently Amended) An optical transmission system ~~comprises~~comprising:  
~~said~~the optical module ~~of~~according to claim 1;  
an optical amplifier; and  
an optical branching means,  
wherein FDM (Frequency Division Multiplexing) signals ~~is~~are branched and transmitted.

9. (Currently Amended) An optical transmission system ~~comprises~~comprising:  
~~said~~the optical module ~~of~~according to claim 1;  
an optical amplifier; and  
an optical branching means, wherein FDM (Frequency Division Multiplexing) signals ~~is~~are further Wavelength Division Multiplexed to be branched and transmitted.

10. (Previously Presented) The optical transmission system as claimed in claim 8, wherein said optical amplifier comprises a rare earth doped optical fiber amplifier.

11. (Currently Amended) A method for amplifying frequency modulated optical signals, comprising wherein there are employed an optical amplifying means and a gain-slope compensation means ~~to~~for flattening a gain slope of optical amplifying gain before or after an optical amplifying, the gain-slope compensation means flattening the gain slope generated by the variation of an input signal.

12. (Currently Amended) The method as claimed in claim 11, ~~wherein~~further comprising using a dielectric multi-layer film filter ~~is used as~~ said gain-slope compensation means.